

General

Title

Maternity care: percentage of cesarean deliveries for live, term, vertex positioned nulliparous births.

Source(s)

MN Community Measurement. Data collection guide: maternity care: primary C-section rate 2015 (07/01/2014 to 06/30/2015 dates of delivery). Minneapolis (MN): MN Community Measurement; 2015. 71 p.

Measure Domain

Primary Measure Domain

Related Health Care Delivery Measures: Use of Services

Secondary Measure Domain

Does not apply to this measure

Brief Abstract

Description

This measure is used to assess the percentage of cesarean deliveries for live, term, vertex positioned nulliparous births.

Rationale

The removal of any pressure to not perform a cesarean birth has led to a skyrocketing of state and national cesarean section (C-section) rates. There are no data that higher rates improve any outcomes, yet the C-section rates continue to rise. This measure seeks to focus attention on the most variable portion of the C-section epidemic, the term labor C-sections in nulliparous women. This population segment accounts for the large majority of the variable portion of the C-section rate, and is the area most affected by subjectivity.

There are clear cut quality improvement activities that can be done to address the differences. Over 60% of the variation among providers can be attributed to first birth labor induction rates and first birth early

labor admission rates (Main et al., 2006). The results showed if labor was forced when the cervix was not ready the outcomes were poorer. Labor and delivery guidelines can make a difference in labor outcomes (Alfirevic, Edwards, & Platt, 2004). Many authors have shown that physician factors, rather than patient characteristics or obstetric diagnoses are the major driver for the difference in rates (Berkowitz et al., 1989; Goyert et al., 1989; Luthy et al., 2003).

Safe and healthy pregnancies and births are a primary goal for society and particularly for expectant mothers and their families, healthcare providers, and payers. While most births are positive experiences with healthy outcomes, childbirth also brings substantial risks for both the mother and the infant.

For consumers, Minnesota lacks publicly reported maternity measures to aid and inform decision making. Several other states have public reporting for maternity care measures, most commonly C-section and vaginal birth after C-section delivery (VBAC) rates due to the high volume, high costs and increased morbidity associated with C-section procedures.

Recently, new clinical guidelines offering more direction regarding the care and management of pregnant women and childbirth have been released along with new quality measures that can be used to highlight variation and underscore appropriate maternal care.

Evidence for Rationale

Alfirevic Z, Edwards G, Platt MJ. The impact of delivery suite guidelines on intrapartum care in 'standard primigravida'. *Eur J Obstet Gynecol Reprod Biol.* 2004 Jul 15;115(1):28-31. [PubMed](#)

Berkowitz GS, Fiarman GS, Mojica MA, Bauman J, de Regt RH. Effect of physician characteristics on the cesarean birth rate. *Am J Obstet Gynecol.* 1989 Jul;161(1):146-9. [PubMed](#)

Goyert GL, Bottoms SF, Treadwell MC, Nehra PC. The physician factor in cesarean birth rates. *N Engl J Med.* 1989 Mar 16;320(11):706-9. [PubMed](#)

Luthy DA, Malmgren JA, Zingheim RW, Leininger CJ. Physician contribution to a cesarean delivery risk model. *Am J Obstet Gynecol.* 2003 Jun;188(6):1579-85; discussion 1585-7. [PubMed](#)

Main EK, Moore D, Farrell B, Schimmel LD, Altman RJ, Abrahams C, Bliss MC, Polivy L, Sterling J. Is there a useful cesarean birth measure? Assessment of the nulliparous term singleton vertex cesarean birth rate as a tool for obstetric quality improvement. *Am J Obstet Gynecol.* 2006 Jun;194(6):1644-51; discussion 1651-2. [PubMed](#)

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Primary Health Components

Cesarean section (C-section)

Denominator Description

Patients who meet each of the following criteria are included in the measure denominator:

- Female patient was nulliparous and of any age.
- Patient had a single liveborn delivery.
- Patient had vertex position delivery.

Patient delivered a term (greater or equal to 37 weeks gestation) baby via a vaginal or cesarean birth.

Patient had at least one prenatal care visit with an eligible provider in an eligible specialty in the medical group prior to the onset of labor.

Patient was delivered by an eligible provider in an eligible specialty with the delivery occurring during the measurement period.

See the related "Denominator Inclusions/Exclusions" field.

Numerator Description

Number of live, singleton, vertex positioned, term (greater or equal to 37 weeks gestation) newborns who were delivered via cesarean section

Evidence Supporting the Measure

Type of Evidence Supporting the Criterion of Quality for the Measure

A formal consensus procedure, involving experts in relevant clinical, methodological, public health and organizational sciences

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Additional Information Supporting Need for the Measure

Unspecified

Extent of Measure Testing

MN Community Measurement (MNCM) conducts validity testing to determine if quality measures truly measure what they are designed to measure, and conducts reliability testing to determine if measures yield stable, consistent results. Validity testing is done to see if the concept behind the measure reflects the quality of care that is provided to a patient and if the measure, as specified, accurately assesses the intended quality concept. Reliability testing is done to see if calculated performance scores are reproducible.

Evidence for Extent of Measure Testing

MN Community Measurement. Measure testing. [internet]. Minneapolis (MN): MN Community Measurement; [accessed 2015 Nov 12].

State of Use of the Measure

State of Use

Current routine use

Current Use

not defined yet

Application of the Measure in its Current Use

Measurement Setting

Ambulatory/Office-based Care

Hospital Outpatient

Professionals Involved in Delivery of Health Services

not defined yet

Least Aggregated Level of Services Delivery Addressed

Clinical Practice or Public Health Sites

Statement of Acceptable Minimum Sample Size

Does not apply to this measure

Target Population Age

Any age

Target Population Gender

Female (only)

National Strategy for Quality Improvement in Health Care

National Quality Strategy Priority

Institute of Medicine (IOM) National Health Care Quality Report Categories

IOM Care Need

Not within an IOM Care Need

IOM Domain

Not within an IOM Domain

Data Collection for the Measure

Case Finding Period

Measurement period will be a fixed 12-month period: July 1 to June 30

Denominator Sampling Frame

Patients associated with provider

Denominator (Index) Event or Characteristic

Clinical Condition

Encounter

Patient/Individual (Consumer) Characteristic

Therapeutic Intervention

Denominator Time Window

not defined yet

Denominator Inclusions/Exclusions

Inclusions

Patients who meet each of the following criteria are included in the measure denominator:

Female patient was nulliparous and of any age.

Patient had a single liveborn delivery.

Patient had vertex position delivery.

Patient delivered a term (greater or equal to 37 weeks gestation) baby via a vaginal or cesarean birth.

Patient had at least one prenatal care visit with an eligible provider in an eligible specialty in the medical group prior to the onset of labor.

Patient was delivered by an eligible provider in an eligible specialty with the delivery occurring during the measurement period.

Note:

Nulliparous Female Patients: Nulliparous women are defined as women whose pregnancy is at least at 20 weeks gestational age and who have not previously had a pregnancy of at least 20 weeks gestational age.

Singleton Liveborn Deliveries: Defined as a delivery with one liveborn baby.

Type of Delivery: Defined as vaginal or cesarean section delivery.

Refer to the original measure documentation for recommendations to identify nulliparous, singleton, liveborn deliveries.

Exclusions

Patient had pregnancy with multiple gestations. Refer to Table 4 in the original measure documentation for International Classification of Diseases, Ninth Revision (ICD-9) codes identifying

stillborn and multiple gestation births.

Patient had pregnancy with a stillborn. Refer to Table 4 in the original measure documentation for ICD-9 codes identifying stillborn and multiple gestation births.

Patient had delivery with a non-vertex fetal position. Refer to Table 4 in the original measure documentation for ICD-9 codes identifying non-vertex fetal positions.

Exclusions/Exceptions

not defined yet

Numerator Inclusions/Exclusions

Inclusions

Number of live, singleton, vertex positioned, term (greater or equal to 37 weeks gestation) newborns who were delivered via cesarean section

Exclusions

Unspecified

Numerator Search Strategy

Fixed time period or point in time

Data Source

Administrative clinical data

Electronic health/medical record

Paper medical record

Type of Health State

Does not apply to this measure

Instruments Used and/or Associated with the Measure

2015 Maternity Care: Primary C-Section Rate Measure Flow Chart

Computation of the Measure

Measure Specifies Disaggregation

Does not apply to this measure

Scoring

Rate/Proportion

Interpretation of Score

Does not apply to this measure (i.e., there is no pre-defined preference for the measure score)

Allowance for Patient or Population Factors

not defined yet

Standard of Comparison

not defined yet

Identifying Information

Original Title

Maternity care: primary C-section rate 2015.

Measure Collection Name

Maternal Care

Submitter

MN Community Measurement - Health Care Quality Collaboration

Developer

MN Community Measurement - Health Care Quality Collaboration

Funding Source(s)

Unspecified

Composition of the Group that Developed the Measure

Unspecified

Financial Disclosures/Other Potential Conflicts of Interest

Unspecified

Adaptation

This measure was not adapted from another source.

Date of Most Current Version in NQMC

2015 Jan

Measure Maintenance

Unspecified

Date of Next Anticipated Revision

Unspecified

Measure Status

This is the current release of the measure.

Measure Availability

Source available from the [MN Community Measurement Web site](#) .

For more information, contact MN Community Measurement at 3433 Broadway St. NE, Broadway Place East, Suite #455, Minneapolis, MN 55413; Phone: 612-455-2911; Web site: <http://mncm.org> ; E-mail: info@mncm.org.

Companion Documents

The following is available:

Snowden AM, Mlodzik R, Ghore E. 2014 health care quality report. Minneapolis (MN): MN Community Measurement; 2014 Dec. 335 p. This document is available from the [MN Community Measurement Web site](#) .

NQMC Status

This NQMC summary was completed by ECRI Institute on December 4, 2015. The information was verified by the measure developer on February 16, 2016.

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Production

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